

Abstract:

Please amend the Abstract as follows:

The present invention relates to an apparatus and a method of modifying surface of polymer powder by rotational ultrasonic treatment, more particularly to an An apparatus and a method for modifying the surface of a polymer powder by utilizes a rotational ultrasonic treatment that pulverizes polymer materials, such as rubber, waste rubber, and plastics, and give rotational ultrasonic treatment to the polymer powder to modify its modifies the surface, so that the polymer materials can be recycled more efficiently. The present invention provides an apparatus comprising: a A hopper which feeds the pulverized polymer powder. A; a rotor which is linked to the bottom of the hopper as an integrated body, is linked to a driving means mechanism through a power transferring means device, and rotates by the power transferred from the driving means drive. A; a rotating disk which is linked to the bottom of the rotor as an integrated body, and is provided with a downsloped plane. A; a shaft which extends through centers of the hopper, the rotor, and the rotating disk, and discharges the polymer powder fed from the hopper out of the bottom of the rotating disk. An; an ultrasonic vibrator which is positioned at the bottom of the rotating disk with a gap, and modifies the polymer powder fed by the shaft using ultrasonic waves. ; a converting means which is linked to the bottom of the ultrasonic vibrator, and comprises a booster and a converter; and a generator which is linked to the converting means through a cable.